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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,348	06/23/2003	Pascal Audinot	TIF-33831	1230

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EXAMINER	
HANNON, CHRISTIAN A	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 05/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/601,348	AUDINOT ET AL.	
	Examiner	Art Unit	
	Christian A. Hannon	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is response to applicant's response filed on 03/03/2006. Claims 1-21 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 7, 8 & 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant Admitted Prior Art (AAPA) in view of Wildhagen et al (US 2003/0059065), herein Wildhagen.

Regarding claims 1, 7 & 13, the AAPA teaches a receiver & method (Page 1, [0016]-[0017]) comprising analog to digital circuitry for generating a digital representation of a signal at an input (Figure 1, Item 22), digital channel filtering circuitry for filtering said digital representation (Figure 1, Item 24) and digital processing circuitry for processing the output of said digital representation (Figure 1, Item 26). However AAPA fails to teach adjustable gain control circuitry for receiving a radio signal and outputting an amplified analog signal using a gain determined by a magnitude of the signal at an output of the analog to digital circuitry. Wildhagen teaches adjustable gain control circuitry (Figure 1, Items 1, 3, 5, 11, 13, 14, 16, 19, 20; Wildhagen) for receiving a radio signal and outputting an amplified analog signal using a gain determined by a

magnitude of the signal at an output of the analog to digital circuitry (Page 2 [0027]-[0028]; Page 3,[0029]; Wildhagen). It would have been obvious to combine AAPA with the teachings of Wildhagen in order to reduce the risk of ADC saturation. Furthermore it is noted that claim 7 is an analogous method claim to the apparatus claim 1, and that claim 13 is a broader recitation of claim 1 and are therefore similarly rejected.

With regard to claims 2 & 8, the AAPA & Wildhagen teach the receiver & method of claims 1 & 7 respectively, furthermore it is obvious to one of ordinary skill in the art that in order to represent a radio signal a plurality of digital bit values are required to indicate the signal. Additionally Wildhagen teaches that the gain applied by the adjustable gain control circuitry is determined responsive to one or more of the bit values (Page 3, [0029]; Wildhagen). Furthermore it is noted that claim 8 is an analogous method claim to the apparatus claim 2, and is therefore similarly rejected.

Regarding claims 11, 12 & 20 AAPA & Wildhagen teach the receiver and method of claims 1, 13 & 8 respectively, furthermore Wildhagen teaches that the output of the analog to digital circuitry is directly connected to an input of said adjustable gain control circuitry (Figure 1, Items 8, 9 & 11; Wildhagen). It is noted that the subject matter of the claims 1, 8 & 13 read analogous and are therefore similarly rejected.

In regard to claim 14, AAPA & Wildhagen teach the receiver of claim 13, furthermore the AAPA teaches wherein said adjustable gain control circuitry is coupled to receive an output signal from at least one low pass filter (Figure 1, Item 18)

Regarding claim 15, AAPA & Wildhagen teach the receiver of claim 14, furthermore the AAPA teaches wherein at least one input of said at least one low pass filter is coupled to an output of at least one mixer (Figure 1, Items 16 & 18).

With respect to claim 16, AAPA & Wildhagen teach the receiver of claim 15, furthermore the AAPA teaches wherein at least one input of said at least one mixer is coupled to an output of an amplifier (Figure 1, Items 14 & 16).

Regarding claim 17, AAPA & Wildhagen teach the receiver of claim 16, furthermore the AAPA teaches wherein an input of said amplifier is coupled to an output of a bandpass filter (Figure 1, Items 13,14).

In regard to claim 18, AAPA & Wildhagen teach the receiver of claim 14, furthermore the AAPA teaches wherein said at least one low pass filter comprises two low pass filters (Figure 1, Items 18; Page 1, [0016]).

With regard to claim 19, AAPA & Wildhagen teach the receiver of claim 13, since mere duplication of parts has no patentable significance unless a new and unexpected result is produced (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)), and the teachings of AAPA & Wildhagen already teach one AGC circuitry the additional for a separate path, having the exact same result is hereby rejected.

Regarding claim 21, AAPA & Wildhagen teach the receiver of claim 13, since mere duplication of parts has no patentable significance unless a new and unexpected result is produced (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)), and the teachings of AAPA & Wildhagen already teach one ADC, the additional for a separate path, having the exact same result is herby rejected, as shown pertinent to claim 20 the

AAPA & Wildhagen show an ADC having an output directly connected to an input of said adjustable gain control circuitry (Figure 1, Items 8, 9 & 11; Wildhagen).

3. Claims 3-6, 9 & 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Wildhagen as applied to claims 1, 2, 7 & 8 above, and further in view of Zamat (US 6,314,278).

Regarding claims 3 & 9, the AAPA and Wildhagen teach the receiver and method of claims 2 & 8 respectively, however both citations fail to explicitly teach wherein said gain is reduced by a first amount responsive to a MSB value indicating that the analog to digital converter has exceeded a first saturation threshold. Zamat teaches a digital gain reduction by a first amount responsive to a MSB value indicating that the analog to digital converter has exceeded a first saturation threshold (Column 6, Lines 14-16; Zamat). Therefore it would have been obvious to combine the AAPA and Wildhagen teachings with those of Zamat in order to effect gain control changes using well known hardwired circuits comprising logic gates. Furthermore it is noted that claim 9 is an analogous method claim to the apparatus claim 3, and is therefore similarly rejected.

In regard to claim 4, AAPA, Wildhagen & Zamat teach the receiver of claim 3, Wildhagen further teaches wherein said automatic gain control applies a first gain reduction independent of said digital processing circuitry (Page 4, [0041]; Wildhagen).

With regard to claims 5 & 10, AAPA, Wildhagen & Zamat teach the receiver and method of claims 3 & 9 respectively, additionally Zamat teaches wherein said gain is reduced by a second amount responsive to a set of MSB of said bit values indicating

that the analog to digital converter has exceeded a second saturation threshold (Column 5, Lines 24-45; Zamat). Furthermore it is noted that claim 10 is an analogous method claim to the apparatus claim 5, and is therefore similarly rejected.

Regarding claim 6, AAPA, Wildhagen & Zamat teach the receiver of claim 2, additionally Zamat teaches wherein said gain is increased responsive to a set of MSB of said bit values indicating that the analog to digital converter is below a threshold (Column 5, 16-23; Zamat).

Response to Arguments

4. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christian A. Hannon
May 8, 2006

QUOCHIEN B. VUONG
PRIMARY EXAMINER